

What is claimed is:

1 1. A method of digital creation of a multivision
2 filter effect, comprising the steps of:

3 initializing a plurality of layers and masks
4 corresponding to the layers, wherein the layers
5 and masks have the same dimensions as a picture,
6 and each of the layers has the pixel information
7 of the picture;

8 translating the layers and masks to positions
9 determined according to user input;

10 determining pixel values of each of the masks according
11 to the positions thereof; and

12 merging the layers to which the corresponding masks are
13 applied.

1 2. The method as claimed in claim 1, wherein each of
2 the masks has transparency information for pixels of each
3 layer.

1 3. The method as claimed in claim 1, wherein the
2 number of layers and masks is determined according to user
3 input.

1 4. The method as claimed in claim 3, wherein the user
2 input comprises a parameter T indicating a type of
3 multivision filter, a parameter d indicating a relative
4 distance between each layer and a parameter θ indicating a
5 rotation angle of the multivision filter.

1 5. The method as claimed in claim 4, wherein when the
2 parameter T indicates a circular type of multivision filter
3 and the parameter θ is $2\pi/N$, both the number of the layers
4 and masks are $(N+1)$, and the centers of the layers are
5 evenly positioned on a circle and the center of the circle.

1 6. The method as claimed in claim 5, wherein, for
2 each of the masks except that corresponding to the layer
3 positioned in the center of the circle, the pixel values are
4 determined so that the mask is a linear gradient mask
5 obtained by two gradient direction vectors respectively from
6 the center of its corresponding layer to the centers of two
7 layers adjacent to its corresponding layer on the circle.

1 7. The method as claimed in claim 6, wherein, for the
2 mask corresponding to the layer positioned in the center of
3 the circle, the pixel values are determined so that the mask
4 is a spherically gradient mask.

1 8. The method as claimed in claim 4, wherein when the
2 parameter T indicates a linear type of multivision filter
3 and the parameter d is D/N , the number of the layers is
4 $(N+1)$ while that of the masks is N, and centers of the
5 layers are evenly positioned along a line of the length D
6 from a start point of the line.

1 9. The method as claimed in claim 8, wherein, for
2 each of the masks, the pixel values are determined so that
3 the mask is a linear gradient mask obtained by a gradient
4 direction vector starting from $(position\ n)-(n-1)*(d/2)$ and
5 ending at $(position\ n)-(n-1)*(d/2)-d$, where n is a layer

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6 index, position n is located at a distance $n \times d$ away from the
7 center of the n^{th} layer and $d=D/N$.